

KARASHEV, T.; TERMINASOV, Yu.S.

X-ray diffraction study of distortions of the crystalline structure  
of annealed steel under wear test. Trudy LIEI no.29:19-23  
[i.e. 39] '62. (MIRA 16:6)  
(X-ray diffraction examination) (Dislocations in metals)  
(Steel--Testing)

ABDULLINA, Z.M.; TERMINASOV, Yu.S.

Testing the depth of the workhardened layer under the treated  
surface of samples of annealed U-8 steel subjected to wear.  
Trudy LIEI no.29:24-27 [i.e. 39] '62. (MIRA 16:6)  
(Steel--Testing) (Steel--Heat treatment)

TKACH, G.I.; TERMINASOV, Yu.S.

X-ray diffraction study of distortions of the crystalline  
structure of steel treated with sulphurated oil. Trudy LIETI  
no.29:28-32 [i.e. 39] '62. (MIRA 16:6)  
(X-ray diffraction examination) (Dislocations in crystals)  
(Steel—Testing)

IMANALIYEVA, N.A.; TERMINASOV, Yu.S.

X-ray diffraction study of UIOA steel subjected to wear. Trudy  
LIEI no.29:46-50 [i.e. 39] '62. (MIRA 16:6)  
(X-ray diffraction examination) (Steel—Testing)

IMANALIYEVA, N.A.; TERMINASOV, Yu.S.

X-ray diffraction study of distortions of the crystalline  
structure of brass due to friction. Trudy LIEI no.29:56-60  
[i.e. 39] '62. (MIRA 16:6)  
(X-ray difraction examination) (Dislocations in metals)  
(Brass--Testing)

KAZAKBAYEV, M.; TERMINASOV, Yu.S.

X-ray diffraction study of chromium deposits obtained in a self-regulating electrolytic cell. Trudy LIEI no.29:61-69 [i.e. 39] '62.  
(X-ray diffraction examination) (Chromium plating)



KOTEL'NIKOV, A.P.; TERMINASOV, Yu.S.

X-ray diffraction study of the thermal stability of distortions  
of the crystalline structure of 45 Kh steel due to turning.  
Trudy LIEI no.29:80-88 [i.e. 39] '62. (MIRA 16:6)  
(X-ray diffraction examination) (Dislocations in metals)  
(Steel—Testing)

KOTEL'NIKOV, A.P.; TERMINASOV, Yu.S.

X-ray diffraction study of the thermal stability of distortions  
of the crystalline structure of steel as dependent on the degree  
of deformation and the chemical composition of the steel when  
subjected to turning. Trudy LIEI no.29 [i.e. 39]:89-94 '62.  
(MIRA 16:6)

(X-ray diffraction examination) (Dislocations in metals)  
(Steel—Testing)

ALYBAKOV, A.; TERMINASOV, Yu.S.

X-ray diffraction examination of the surface layer of 45 steel  
worked by the power cutting method. Trudy LIEI no.29:102-107  
[i.e. 39] '62. (MIRA 16:6)  
(X-ray difraction examination) (Dislocations in metals)  
(Steel—Testing)

ALYBAKOV, A.; TERMINASOV, Yu.S.

X-ray diffraction study of the depth of the workhardened layer  
under the machined surface of steel subjected to power cutting.  
Trudy LIEI no.29:108-111 [i.e. 39] '62. (MIRA 16:6)  
(X-ray diffraction examination) (Dislocations in metals)  
(Steel--Testing)

NOSOV, M.S.; TERMINASOV, Yu.S.

X-ray diffraction study of distortions of the crystalline  
structure and their thermal stability in nonferrous metals  
subjected to turning. Trudy LIET no.29:112-119 [i.e. 39] '62.  
(MIRA 16:6)

(X-ray diffraction examination) (Dislocation in metals)  
(Nonferrous metals--Testing)

TERMINASOV, Yu.

Third Interuniversity Conference on the Strength and Plasticity  
of Metals. Metalloved. i term. obr. met. no.11:63-64 N '63.  
(MIRA 16:11)

L 18100-63  
ACCESSION NR: AP3004598

EWP(q)/EWT(m)/EDS AFFTC/ASD JD/HW

S/0126/63/016/001/0102/0106

AUTHORS: Potakhin, N. Ye.; Terminasov, Yu. S.

60  
59

TITLE: Microscopic investigation of slip plane development in copper during fatigue tests. 1 16 27 18

SOURCE: Fizika metallov i metallovedeniye, v. 16, no. 1, 1963, 102-106

TOPIC TAGS: copper, fatigue test, slip plane , development

ABSTRACT: The development of progressive failures in polycrystalline sheet copper (99.97% pure) was studied. The samples were subjected to a symmetrical bending at 4000 stress-cycles per minute in a specially built fatigue testing machine maintaining a constant bending amplitude (2mm). The results showed that slip planes begin to develop after 5000 cycles. In some grains they are broad but widely spaced, in others they are faintly defined but closely spaced. After 30 000 cycles the plastic deformation proceeds rapidly, structure of metal changes little during further bending, but slip lines become more numerous and broader. They are limited basically to the slip planes in the areas with broad slip lines. After 200 000 cycles microcracks are formed in the regions of thin and broad line

Card 1/2

L 18100-63  
ACCESSION NR: AP3004598

bands. In some slip bands the material is "drawn in" while in others it is "squeezed out". The slip lines produced by fatigue differ considerably from those caused by a static tensile stress. The fatigue bands have a characteristic laminated-block structure, while the tensile stress bands are formed by smooth thin lines. Orig. art. has: 4 figures.

ASSOCIATION: Petrozavodskiy gosudarstvennyy universitet (Petrozavodsk State University)

SUBMITTED: 29Oct62

DATE ACQ: 27Aug63

ENCL: 00

SUB CODE: ML

NO REF Sov: 005

OTHER: 007

Card 2/2

POTAKHIN, N.Ye.; TERMINASOV, Yu.S.

Microscopy of the development of slip lines in iron and magnesium during fatigue tests. Report no. 2. Fiz. met. i metalloved. 16 no.3:491-493 S '63. (MIRA 16:9)

1. Petrozavodskiy gosudarstvennyy universitet.

TERMINASOV, Yu.S.

Third Interuniversity Conference on the Strength and Plasticity of  
Metals. Fiz. met. i metalloved. 16 no.4:640 O '63. (MIRA 16:12)

"APPROVED FOR RELEASE: 07/16/2001

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TERMINASOV, Yu.S., prof.

Interuniversity Conference on the strength and plasticity of metals.  
Zav. lab. 30 no.1:122-123 '64. (MIRA 17:1)

ACCESSION NR: AP4041129

S/0053/64/083/002/0223/0258

TITLE: Double reflections of X-rays in crystals

AUTHORS: Terminasov, Yu. S.; Tuzov, L. V.

SOURCE: Uspekhi fizicheskikh nauk, v. 83, no. 2, 1964, 223-258

TOPIC TAGS: crystal structure analysis, x ray crystallography,  
x ray diffraction, fine structure

ABSTRACT: The article is devoted to a systematic and detailed exposition of the geometry of double reflections, the main results of theoretical calculations and experimental measurements of their intensity, methods of separating their effects in the case when the reflections are parasitic and interfere with the observation of other diffraction effects, and possible fields of application of double reflection in structure research. The results reported extend to 1963. The conclusions state that double reflections can occur quite fre-

Card

1/3

ACCESSION NR: AP4041129

quently in structure investigations and produce effects that are determined to a considerable degree by the fine structure of real crystals. The effects are observed most frequently at small scattering angles, when the intensity of the double reflections is relatively high, so that the reflections can fully mask the true scattering by inhomogeneities of the electron density of crystalline materials. This must be taken into account both when double reflections are parasitic and when they are used for structure study. Experimenters have not been making full use of the potential use of double reflections as a supplement to other diffraction methods. The section headings are: 1. Introduction. 2. Geometry of double reflections. a. Double reflections in single crystals. b. Double reflections in polycrystalline samples. 3. Intensity of double reflections. 4. Some methods of separating the effects due to double reflections from other diffraction effects, and examples of the use of double reflection in structure research. Conclusion. Orig. art. has: 12 figures, 25 formulas, and 1 table.

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2/3

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APPROVED FOR RELEASE: 07/16/2001

CIA-RDP86-00513R001755420003-4"

KAYBIYAYNEN, L.K., inzh.; RYNISYNA, L.A., inzh.; TERMINASOV, Yu.S.,  
doktor fiz.-mat. nauk, prof.

Effect of an ultrasonic field on the structure of solid electrolytic  
iron deposits. Izv. vys. ucheb. zav.; mashinostr. no.6:178-  
183 '65. (MIRA 18:8)

1. Petrozavodskiy gosudarstvennyy universitet.

L 15740-62 501 m 1  
ACC NR AP6005134

J. L. H.A.

SOURCE CODE: UR/0126/66/021/001/0033/0042

AUTHOR: Nishchiriy, V. G.; Terminasov, Yu. S.

ORG: Petrozavodsk State University im. O. V. Kuusinen (Petrozavodskiy gosuniver-  
sitet) 44 B

TITLE: Investigation of the structure of cyclically loaded nickel by the low-angle  
x ray scatter method 27

SOURCE: Fizika metallov i metallovedeniye, v. 21, no. 1, 1966, 33-42

TOPIC TAGS: cyclic load, nickel, fatigue test, x ray scattering, photometry

ABSTRACT: Polycrystalline specimens of technically pure Ni measuring  $0.1 \times 12 \times 60 \text{ mm}^2$  with semicircular stress concentrators of 5 mm diameter were subjected to cyclic bending tests in a device described earlier (Nishchiriy, V. G., Tuzov, L. V. Zavodskaya laboratoriya, 1964, 30, 1136). Ni was selected because the X-ray scattering intensity of this metal in the low-angle region is comparatively high. Besides, the mechanism of fatigue breakdown of Ni has not previously been as well investigated as it is for other metals. The range of loading cycles was  $10^4$ - $10^7$ . Filtered  $\text{CuK}_\alpha$  radiation was employed, with microphotometry of the specimens. Findings: The structure of fatigue-deformed Ni becomes "loosened," thus providing the conditions for the formation of a fatigue crack. The slight additional increase in the mean disorient-

Card 1/2

L 18740-66

ACC NR: AP6005134

tation angle of mosaic blocks (and in the blurring of interference lines as well) just prior to the fracture is associated with the marked continuation of the structure of Ni in the zone of propagation of the newly formed cracks. The experimental curves of scattering intensity satisfactorily coincide, over the range of scattering angles considered ( $2\text{-}20'$ ) with the theoretical curve corresponding to double Wulff-Bragg scattering, which indicates that pores do not form in the fatigue-deformed Ni. As the number of loading cycles increases, during fatigue tests, the intensity of the scattering of x-rays by Ni in the low-angle region increases. Up to a certain number of loading cycles the mean disorientation angle of mosaic blocks increases sharply but, once it reaches this peak ( $\sim 10^6$  cycles) it stabilizes and then increases slightly again just prior to the fracture. The increase in microdistortions follows the same pattern, reaching its peak at  $\sim 10^6$  cycles and, moreover, some fragmentation of crystalline blocks occurs over the same range of loading cycles; the dislocation densities calculated according to the mean disorientation angle of mosaic blocks also coincide in value with those calculated according to the dimensions of the crystal blocks: all this further demonstrates that the low-angle x-ray scatter method is a highly accurate method of determining the mean disorientation angle of mosaic blocks.

Orig. art. has: 10 formulas, 7 figures, 3 tables.

SUB CODE: 11, 13, 18, 20/ SUBM DATE: 25Feb65/ ORIG REF: 006/ OTH REF: 010

Card 2/2 JMW

L 39680-66 - 307(1) 1402/65-2  
ACC NRT AP6016072

SOURCE CODE: UR/0139/65/000/005/0181/0184

AUTHOR: Kozlov, O. M.; Terminasov, Yu. S.

ORG: Petrezavodsk State University im. O. V. Kuusinen (Petrozavodskiy gosudarstvenny universitet)

TITLE: Experimental investigation of the increase of x-ray interference caused by secondary extinction

SOURCE: IVUZ. Fizika, no. 5, 1965, 181-184

TOPIC TAGS: x radiation, electromagnetic wave interference, single crystal, aluminum, Cauchy problem

ABSTRACT: It is demonstrated in the article that when the integral width of X-ray interference is changed, it is necessary to introduce a correction for secondary extinction. The integral width of reflection (200) of a single crystal of Al increases by 23-29% because of secondary extinction. To correct the integral intensity in the case of blocks of a mosaïc of the Cauchy type, it is shown that one can use the formula  $\beta_e^2 = \beta_t^2 (1 + \frac{2\rho}{\rho_t} t)$ , where

$\beta_e$  and  $\beta_t$  are the experimental and theoretical widths respectively (in the absence of secondary extinction  $\rho_t$  is the integral intensity calculated theoretically. A table of the experimentally obtained data is presented. Orig. art. has: 3 formulas and 1 table. [JPRS]

SUB CODE: 20 / SURM DATE: 03Mar64 / ORIG REF: 003 / OTH REF: 002

Card 1/1

TERMINASOVA, M.D.; TUZOV, L.V.

Unit for tensile testing of thin plane specimens in an atmospheric environment at temperatures up to 700°C. Zav. lab. 31 no. 2:231-232  
'65. (MIRA 18:7)

1. Petrozavodskiy gosudarstvennyy universitet.

ACC NR: AR7004866

SOURCE CODE: UR/0137/66/000/010/I053/I053

AUTHOR: Terminasova, M. D.

TITLE: Investigation of nickel structure at high temperature plastic flow

SOURCE: Ref. zh. Metallurgiya, Abs. 10I348

REF SOURCE: Sb. nauchn. rabot aspirantov i molodykh spetsialistov. Petrozavod-skiy un-t. Gumanitarn. i fiz. n., vyp. 1, 1965(1966), 110-119

TOPIC TAGS: plastic flow, nickel, tensile test, creep, annealing, fragmentation, crystalline block, crystal structure

ABSTRACT: Technically pure nickel double-blade-shaped specimens 90—100 thick, annealed for one hour at 590 C, were subjected to tensile tests at 400 and 500 C. Creep was observed at 500 C. Two different creep rates, which occurred within 30 min and 9 hr after the initiation of the load, were used to bring about failure. A URS-50I camera was used to photograph the plane (420) reflection. At 400 C deformation (D) took place only at the moment of loading; at 500 C and a constant load, D increased with time. X-ray examination showed that at 400 C,

Card 1/2

UDC: 539.376:669.24:548.7

ACC NR: AR7004866

D occurs as a result of fragmentation of crystalline blocks (CB) and the development of microdistortions. At 500 C and a sample life of 30 min, fragmentation prevails, whereas in case of 8 hr sample life, microdistortions predominate. During deformation the angle of CB disorientation increases at both temperatures, while at a lower creep rate a less pronounced increase in this angle is observed.  
M. Matveyeva. [Translation of abstract] [KP]

SUB CODE: 20/

Card 2/2

STAROVSKIY, V.N.; TER-MINASOVA, N.

Figures talk. Nauka i zhizn' 30 no.5:2-5 My '63. (MIRA 16:10)

1. Chlen-korrespondent AN SSSR, nachal'nik TSentral'nogo statisticheskogo upravleniya pri Sovete Ministrov SSSR (for Starovskiy).

STANCHEV, N.I., Inst.; TERMINAKOVA, Yu.S., prof., nauchnyy rukovoditeli;  
Izv.vys.ucheb.zav.;mashinostr. no.54150-164 (U.S.)

X-ray diffraction examination of crystalline structure of austenite  
manganese cast iron subjected to sliding friction with abrasive  
lubrication. Izv.vys.ucheb.zav.;mashinostr. no.54150-164 (U.S.)  
(MIRA 18-1)

I. Tadzhikskiy sel'skokhozyaystvennyy institut.

Chem Abstr., v. 48

1-10-54

Electrochemistry

Electrolytic reduction of o-nitraniline. L. P. Ter-Min  
Khim. 27, 710-23 (1963). — A 0.4M soln. of o-nitraniline in  
EtOH 50, 4% NaOH 50% was reduced at 40° and cathodic  
c.d. of 10 amp./sq. dm. The yield Y of  $\sigma\text{-C}_6\text{H}_4\text{(NH}_2\text{)}$  was  
80.5, 74.5, 70.8, 55.5, 41.0, 62.0, 83.0, and 66.5% when the  
cathode was a Cu grid, a Cu plate, a Cu spiral, Pt, Al, Ni,  
Pb, or Zn, resp. The Y at 70° and at a Pb cathode was  
slightly greater than at 40°, and Y at 10° was 25% smaller.  
The Y on Pb (at 40°) increased with c.d. from 70% at 2 to  
88% at 14 amp./sq. dm. J. J. Bikerman

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BW

Lab. Pharm. Chem., Yerevan, AS Arme SSR

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CIA-RDP86-00513R001755420003-4"

TER-MINASYAN, L.Ye.

Electrolysis of o-phenylenediamine. Report No.2: Effect of  
cathodic current density on electrolytic reduction of o-nitroaniline.  
Izv. AN Arm. SSR. Khim. nauki 11 no.2:75-81 '58. (MIRA 11:11)

1. Institut tonkoy organicheskoy khimii AN ArmSSR.  
(Aniline) (Reduction, Electrolytic)

TER-MINASYAN, L.Ye.

Electrolytic synthesis of o-phenyldiamine. Report No.3: Effect of temperature on electrolytic reduction of o-nitroaniline. Izv. AN Arm. SSR. Khim.nauki 11 no.4:221-232 '58. (MIRA 11:11)

1. Institut tonkoy organicheskoy khimii AN Arm.SSR.  
(Aniline) (Reduction, Electrolytic)

TEN-MINASYAN, L.Ye.

Electrosynthesis of  $\sigma$ -phenylenediamine. Report No.4: Effect of the catholyte composition on the electroreduction of  $\sigma$ -nitroaniline. Izv. AN Arm. SSR. Khim. nauki 13 no.5:325-331 '60. (MIA 14:2)

1. Institut tonkoy organicheskoy khimii AN ArmSSR.  
(Aniline) (Phenylenediamine)

TER-MINASYAN, L.Ye., otv. red.; SIKUNI, A.G., red. izd-va; SARKISYAN,  
G.S., tekhn. red.

[Papers at the Scientific Conference of Chemical Institutes of  
the Academies of Sciences of the Azerbaijan, Armenian, and  
Georgian S.S.R.] Materialy nauchnoi konferentsii institutov khi-  
mii Akademii nauk Azerbaidzhanskoi, Armianskoi i Gruzinskoi  
SSE, Erevan, 1957. Erevan, Izd-vo Akad. nauk Armianskoi SSR,  
1962. 396 p.  
(MIRA 15:9)

1. Nauchnaya konferentsiya institutov khimii Akademiy nauk  
Azerbaydzhanskoy, Armyanskoy i Gruzinskoy SSR, Erevan, 1957.  
(Chemistry—Congresses)

TMR-MINASYAN, M.Ye.

Three new species of blossom weevils of the genus *Anthonomus* Germ.  
(Curculionidae, Coleoptera). Dokl. Akad. Nauk Armyanskoy SSR 9 no.2:87-89  
'48. (MIRA 9:10)

1. Zoologicheskiy institut Akademii nauk Armyanskoy SSR, Yerevan.  
Predstavлено V.O. Gulkanyanom.  
(Far East—Weevils)

TERMINASIAN, M. S.

Weevils Moskva, Akad. nauk SSSR, 1950. 231 p.

1. Weevils.

TER-MINASYAN, M. Ye., Author

Ter-Minasyan, M. Ye.

"Snout beetle (Rhynchites betuleti Attelabidae)." Reviewed by O. Kryzhanovskiy. Ent. ob. 31, No. 3, 1951.

9. Monthly List of Russian Accessions, Library of Congress, September 1957/2 Unc1.

TER-MINISYAN, M. Ye.

Survey of snout beetles of the genus Trachodes Germ. of the fauna of the  
U.S.S.R. Trudy zool.inst. 12:317-320 '52. (MLRA 6:6)  
(Snout beetles)

TER-MINASIAN, M.Ye., ZAYTSEV, Z.A., deystvitei my chlen.

New species of the flower weevil of Georgia, Coleoptera, Curculionidae.  
Soob. AN Gruz.SSR 13 no.9:539-540 '52. (MLRA 6:5)

1. Akademiya Nauk Gruzinskoy SSSR (for Zaytsev). 2. Akademiny Nauk Gru-  
zinskoy SSR. Institut zoologii, Tbilisi (for Ter-Minasyan).  
(Georgia--Elm weevil)

**TER-MINASYAN, M.Ye.**

Survey of species of the genus Rhynchaenus Clairv. (Orcheses Ill.)  
(Coleoptera, Curculionidae) in the fauna of the U.S.S.R. Ent. ebs.  
33:311-324 '53.  
(Weevils)  
(MLRA 7:5)

TER-MINASYAN, M.Ye.

New species of weevils (Coleoptera, Bruchidae) in the U.S.S.R.  
Trudy Zool. inst. 15:67-73 '54. (MLRA 7:7)  
(Weevils)

*SIER-MINAS YAN, M.Y.*  
TER-MINASYAN, M.Y.

New flower eating beetles (Coleoptera, Curculionidae) found in Armenia. Dokl. AN Arm. SSR 18 no.2:57-58 '54. (MIRA 8:3)

1. Zoologicheskiy institut Akademii nauk SSSR. Predstavлено G.Kh. Bunyatyanom.  
(Armenia--Beetles)

TER-MINASYAN, M.Ye.

Beetles injurious to fruit trees in the Aras Valley. Trudy Zool.  
inst. 21:312-320 '55. (MLRA 9:5)  
(Aras Valley--Beetles)

TER-MINASYAN, M.Ye.

New representative of the western Mediterranean genus Cyclobarus  
Fst. (Coleoptera, Curculionidae) in Armenia. Ent. oboz. 34:242-243  
'55. (MLRA 9:5)  
(Armenia--Snout beetles)

TER-MINASYAN, M.Ya.

Survey of species of the genus Curculio L. (Coleoptera,  
Curculionidae) of the U.S.S.R. and adjacent countries [with  
summary in German]. Ent. oboz. 35 no.2:421-446 '56. (MLRA 9:10)

1. Zoologicheskiy institut Akademii nauk SSSR, Leningrad.  
(Snout beetles)

TER-MINASIAN, M.Ye.

New snout beetles (Curculionidae, Coleoptera) from the Maritime Territory [with English summary in insert]. Zool. zhur. 35 no. 3:  
(MIRA 9:7)  
392-394 Mr '56.

1. Zoologicheskiy institut AN SSSR.  
(Maritime territory--Snout beetles)

LUK'YANOVICH, F.K.; TER-MINASYAN, M.Ye.; PAVLOVSKIY, Ye.N., akademik,  
glavnnyy redaktor; BYKHOVSKIY, D.Ye., redaktor; VINOGRADOV, d.S.,  
redaktor; STRELKOV, A.A., redaktor; SHTAKKL'BERG, A.A., redaktor;  
TVERITINOVA, K.S., tekhnicheskiy redaktor.

[Grain beetles (Bruchidae).] Zhuki-zernovki (Bruchidae). Moskva,  
Izd-vo Akad. nauk SSSR, 1957. 208 p. (Fauna SSSR, no.67, Zhestko-  
krylye, vol. 24, no.1). (MLRA 10:7)

(Beetles)

MR. MINASYAN, M.Yo.

A survey of the species of the subgenus *Bothynoderes* s.str. (Coleoptera, Curculionidae). Ent. oboz. 37 no.1:124-131 '58. (MIRA 11:3)

1. Zoologicheskiy institut AN SSSR, Leningrad.  
(Weevils) (Beets--Diseases and pests)

AKRAMOVSKIY, N.N., ARNOL'DI, L.V., BEI-BIYENKO, G.Ya., BORKHSENIUS, N.S.,  
VERESHCHAGIN, N.K., DAL', S.I., D'YAKONOV, A.M., KIRICHENKO, A.H.,  
KIR'YANOVA, Ye.S., KOZHANCHIKOV, I.V., KRYZHANOVSKIY, O.L.,  
LEPNEVA, S.G., LIKHAREV, I.M., LOGINOVA, M.M., NIKOL'SKAYA, M.N.,  
NOVIKOV, G.A., POPOV, V.V., PORTENKO, L.A., RYABOV, M.A., TER-MINASYAN,  
M.E., CHERNOV, S.A., SHTAKEL'BERG, A.A.; PAVLOVSKIY, Ye.N., akad.,  
glavnnyy red., VINOGRADOV, B.S., [deceased], red.; KOZLOVA, G.I., red.  
izd-va.; PEVZNER, R.S., tekhn. red.

[Animals of the U.S.S.R.] Zhivotnyi mir SSSR. Moskva. Vol. 5. [Mountain  
provinces of European Russia] Gornye oblasti evropeiskoi chasti  
SSSR. 1958. 655 p. (MIRA 11:11)

1. Akademiya nauk SSSR. Zoologicheskiy institut.  
(Zoology)

TER-MINASYAN, M.Ye.

New grape pest from the Maritime Territory (Coleoptera, Attelabidae).  
Ent. oboz. 38 no.2:361-362 '59. (MIRA 12:7)

1. Zoologicheskiy institut AN SSSR, Leningrad.  
(Maritime Territory—Weevils)  
(Grapes—Diseases and pests)

TER-MINASYAN, M.Ye.

New and little known snout beetles (Coleoptera, Curculionidae)  
found in Tajikistan. Dokl. AN Tadzh. SSR 3 no. 2:41-43 '60.  
(MIRA 14:4)

1. Zoologicheskiy institut AN SSSR. Predstavleno chlenom-  
korrespondentom AN Tadzhikskoy SSR M.N. Narikulovym.  
(Tajikistan—Snout beetles)

TER-MINASYAN, M.Ye.

A new species of the genus *Kytorrhinus* Fisch. (Coleoptera,  
Bruchidae) from the Maritime Territory. Ent. oboz. 39  
no.2:417 '60. (MIRA 13:9)

1. Zoologicheskiy institut Akademii nauk SSSR, Leningrad.  
(Maritime Territory--Weevils)

TER-MINASYAN, M.Ye.

East Asian weevil species (Coleoptera, Curculionidae) in the fauna  
of the U.S.S.R. Mat. oboz. 39 no.3:671-673 '60. (MIRA 13:9)

1. Zoologicheskiy institut Akademii nauk SSSR, Leningrad.  
(Soviet Far East--Weevils)

TER-MINASYAN, M. Ya.

A new spruce pest from southern Kirghizia (Coleoptera, Curculionidae). Ent. oboz. 4C no.2:392 '61. (MIRA 14:6)

1. Zoologicheskiy institut AN SSSR Leningrad.  
(Kirghizistan--Weevils)  
(Spruce--Diseases and pests)

TER-MINASYAN, M. Ye.

New species of snout beetles Cleoninae (Coleoptera, Curculionidae)  
from the U.S.S.R. Trudy Zool. inst. 30:258-259 '62.  
(MIRA 15:10)

(Weevils)

TER-MINASYAN, M. Ye.

New species of the genus Larinus Germ. (Coleoptera, Curculionidae)  
from Transcaucasia. Ent. oboz. 41 no.4:872-874 '62.  
(MIRA 16:1)

1. Zoologicheskiy institut AN SSSR, Leningrad.

(Transcaucasia--Weevils)

TER-MINASYAN, M.Ye.

Snout beetles of the genus Apion Herbst (Coleoptera, Curculionidae)  
from the Tajik S.S.R. Ent. oboz. 42 no.3:649-650 '63.  
(MIRA 17:1)

1. Zoologicheskiy institut AN SSSR, Leningrad.

TER-MINASYAN M.Ye.

Phylogenetic relations among the weevils of the subfamily  
Cleoninae (Coleoptera, Curculionidae). Ent. oboz. 42 no. 4:  
782-792 '63. (MIRA 17:8)

1. Zoologicheskiy institut AN SSSR, Leningrad.

ACC NR: AP7001586

SOURCE CODE: UR/0421/66/000/006/0147/0152

AUTHOR: Ter-Minasyants, S. M. (Moscow)

ORG: none

TITLE: The problem of supersonic flow around the lower surface of a triangular airfoil

SOURCE: AN SSSR. Izvestiya. Mekhanika zhidkosti i gaza, no. 6, 1966, 147-152

TOPIC TAGS: boundary value problem, supersonic airfoil, streamline flow, supersonic flow, motion equation, analytic function, angle of attack, Laplace equation, Fourier series, pressure distribution

ABSTRACT: The problem of supersonic flow around the lower surface of a triangular airfoil is examined. This problem is reduced to a homogeneous Hilbert boundary value problem for an analytic function of a complex variable whose real and imaginary parts are partial derivatives of the unknown pressure perturbation with respect to the self-similar coordinates. A system of Cartesian coordinates is introduced into the plane ABCNDEF (see Fig. 1):

$$x = x' / s' \operatorname{tg} v, \quad y = y' / s' \operatorname{tg} v.$$

M. J. Lighthill's method (The diffraction of blast. I. Proc. Royal Soc. A., 1949, vol. 198, No. 1055; 1950, vol. 200, pp. 554-565) is extended to the case of an asymmetric region in solving the boundary value problem. The pressure distribution is also examined.

Card 1/2

ACC NR: AP7001586

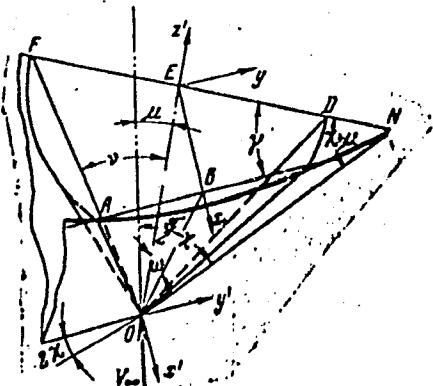


Fig. 1.

Orig. art. has: 24 formulas and 1 diagram.

SUB CODE: 20/ SUBM DATE: 24Feb66/ ORIG REF: 007/ OTH REF: 004

Card 2/2

10.1600

S/208/62/002/002/012/014  
D234/D302

160

AUTHOR: Ter-Minasyants S.M.

TITLE: Regular interaction of contrary plane shock waves

PERIODICAL: Zhurnal vychislitel'noy matematiki i matematicheskoy fiziki, v. 2, no. 2, 1962, 351 - 358

TEXT: An ideal gas is considered; the wave fronts are assumed to be rectilinear and to move towards each other at a constant angle. Gas parameters behind the wave fronts are assumed to be constant. The flow behind the fronts is considered as a flow past two different wedges. Graphical solutions, obtained with the aid of a computer, are given for the case of weak interactions. There are 8 figures, 1 table and 2 non-Soviet-bloc references.

SUBMITTED: November 9, 1961

Card 1/1

USSR √8

ACCESSION NR: AP4030778

S/0020/64/155/004/0775/0778

AUTHOR: Ter-Minasyants, S. M.

TITLE: Diffraction of a plane wave by a wedge moving with a supersonic speed

SOURCE: AN SSSR. Doklady\*, v. 155, no. 4, 1964, 775-778

TOPIC TAGS: aerodynamics, plane wave diffraction; supersonic speed wedge motion, Laplace equation, supersonics, gas motion, nonstationary gas motion

ABSTRACT: The author considers the encounter of a weak plane compression wave in a gas, with a wedge of a given angle moving at supersonic speed. The equations of plane, nonstationary gas motion are reduced to the Laplace equation for the perturbation pressure. The nonuniform problem with discontinuous coefficients is solved in a complex form. By separation of the real and imaginary parts, the expression for pressure in the diffraction region is found. Orig. art. has: 1 figure and 11 equations.

Card 1/2

L 10545-66 EWT(d)/EWT(1)/EWP(m)/EWA(d)/FCS(k)/EWA(h)/EWA(c) LJP(c) WA  
ACC NR. AP5023291 UR/0022/65/018/005/0074/0082 72  
13  
AUTHOR: Ter-Minasyants, S.M. 44, 55  
ORG: Computing Center, Moscow State University (vychislitel'nyy tsentr  
Moskovskogo gosudarstvennogo universiteta)  
TITLE: Propagation of a shock wave in a lower half-space filled with a  
compressible fluid 1, 44, 55  
SOURCE: AN ArmSSR. Izvestiya. Seriya fiziko-matematicheskikh nauk,  
v.18, no.5, 1965, 74-82  
TOPIC TAGS: fluid flow, shock wave, thermodynamic state equation  
compressible fluid  
ABSTRACT: The article considers the self-similar motion of the per-  
turbed portion of a lower half-space filled with a compressible fluid,  
under the action of a constant pressure with a constant velocity which  
is significantly greater than the velocity of sound in the fluid filling  
the lower half-space. The equation of state is assumed to be represented  
by an arbitrary function  $p = f(\rho, T)$  which satisfies the condition  
 $\partial f / \partial T > 0$  and which does not violate the self-similar motion. The  
solution is obtained by reduction to the Riemann-Hilbert boundary value  
problem. The first step in the mathematical development is a statement

Card 1/2

ACC NR: AP5028291

of the problem in terms of the generalized wave equation. This is then reduced to the Riemann-Hilbert problem, which is solved for the pressure and for the form of the wave front. Orig. art. has: 43 formulas and 1 figure.

SUB CODE: 20 SUBM DATE: 15Feb65 ORIG REF: 005 OTH REF: 002

Card

2/2 p/w

TER-MINASYANTS, V.M.

Problem concerning the propagation of a shock wave in the lower half-space filled by a compressible fluid. Izv. AN Arm. SSR. Ser. fiz.-mat.nauk 18 no.5:74-82 '65.

(MIRA 18:12)

1. Vychislitel'nyy tsentr Moskovskogo gosudarstvennogo universiteta. Submitted Febr. 15, 1965.

MIRAKHMEDOV, A.A., vrach; TER-MINOSYAN, E.P., vrach.; LOGINOVA, G.,  
operatsionnaya sestra

Disinfection of the hands of a surgeon, obstetrician, gynecologist  
and their assistants in a rural locality. Med.sestra 21 no.12:  
46-49 D '62. (MIRA 1614)

1. Iz Uzunskoy uchastkovoy bol'nitsy Surkhan-Dar'inskoy  
oblasti Uzbekskoy SSR.  
(DISINFECTION AND DISINFECTANTS)

18.5 Ton

20-3000-1000

AUTHORS: Minayev, A. F. (Foreman), Moshkov, A. A. (Graduate of Technical University), Tsvetkov, N. V., Tereshchuk, N. S., Kurilev, A. I., Shishkin, L. P., Polyakov, M. M., Lipetskiy, I. A., Kurnikov (Translator)

TITLE: Two-Line Rolling With Repeaters of Deformed Concrete Reinforcing Bars

PERIODICAL: <sup>20-</sup> "Stal", 1966, No. 1, pp. 34-43 (USSR)

ABSTRACT: The introduction of two-line rolling of deformed concrete reinforcing bars on a redesigned small-section 250 mm mill at Yenakievo Plant (Yenakievskiy metalurgicheskiy zavod) has increased the mill's hourly productivity by about 70%. The rolling is almost fully mechanized and automated by the addition of two-line repeaters in front and in the rear part of the mill. The following participated in the work: N. A. Abramenko, A. P. Mikhalevskiy, I. N. Galaktionov, L. I. Ivanov, A. A. Guseakov, I. P. Artyukh, M. K. Nikolenko, V. A. Perovskiy, V. D. Syromyatnikov, P. S. Bogomolov, R. V. Knabickin, I. Berestetskiy,

Card 1/7

Two-Line Rolling With Repeating of  
Deformed Concrete Reinforcing Bars

89186  
SIV/13-61 8-1964

N. I. Pedyurin, V. G. Matirovskiy, Z. I. Ber (deceased),  
G. E. Sheherbita, S. S. Aptekar', K. F. Koshelevko, and a  
team of workers of the small section rolling shop.  
Modernization of the mill was started in 1952 by the  
installation of (1) mechanized uncler; (2) flying  
shears; (3) three-zonal continuous two-row recuperative  
surface-weld reheat-treated metal supply and delivery;  
(4) tilting tables; (5) electric flying-shearing motors; (6)  
electric motor for the roughing line. Of the various methods  
of two-line rolling tried at the mill, the arrangement  
shown in Fig. 3 was accepted as most satisfactory. Two-  
line rolling required the use of a vertical repeater at  
the roughing line and a two-trough horizontal repeater in  
front of the finishing line (Figs. 3 and 4). The above  
repeaters are simpler in design and reliable in perform-  
ance. Forged steel delivery guides used in the mill are  
produced by hot twisting, at 800-850°C, to the required  
angle of turning. There are 10 figures, 1 table, and 3  
Soviet references.

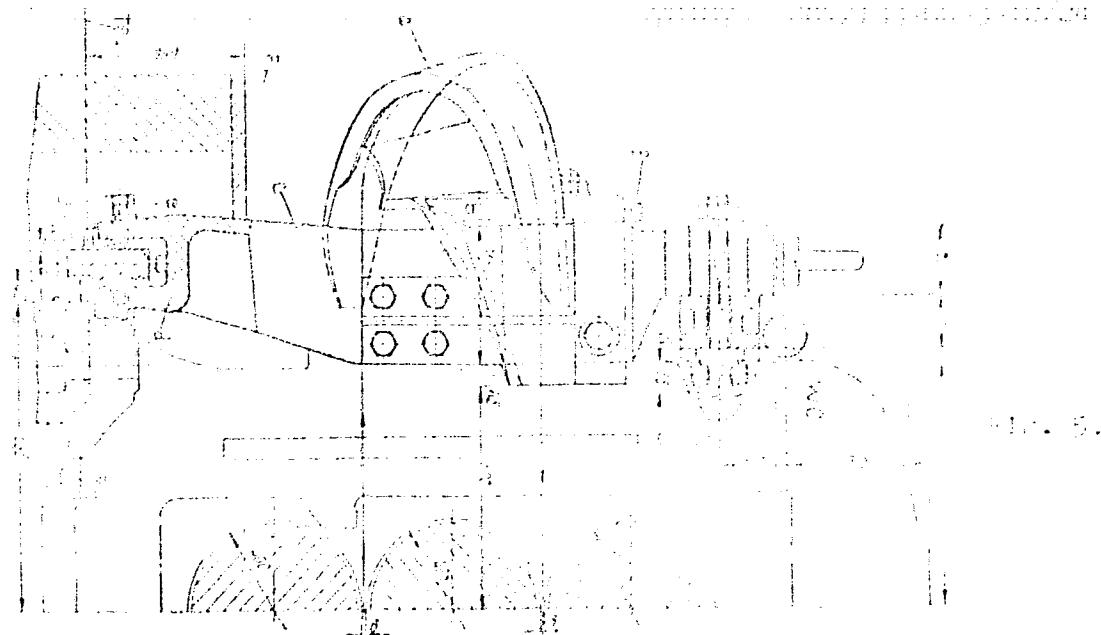
Card 2/7



Fig. 2. Schematic diagram of a steel rolling mill on 280 mm mill at Kramatorskij metalurgicheskij zavod (Kramatorskij metalurgicheskij zavod). (a) 100 mm reducing line; (b) 100 mm finishing line; (c) 100 mm finishing line.

Card 3/7

"APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R001755420003-4



Card 47

(Caption for Plate 1, see Sheet 1)

APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R001755420003-4"

Two-Line Rolling Mill, Reproduced  
Deformed Concrete Reinforcing Bar

60-3-12/24

Fig. 5. Vertical roughing mill, which roughing  
line: (a) body (trough); (b) stand; (c) stand;  
rack; (e) screwdown; (f) vertical; (g) top traverse;  
(h) bottom traverse; (i) side roller; (FL) floor  
level; (TPL) top plate level.

Card 5/7

"APPROVED FOR RELEASE: 07/16/2001

CIA-RDP86-00513R001755420003-4

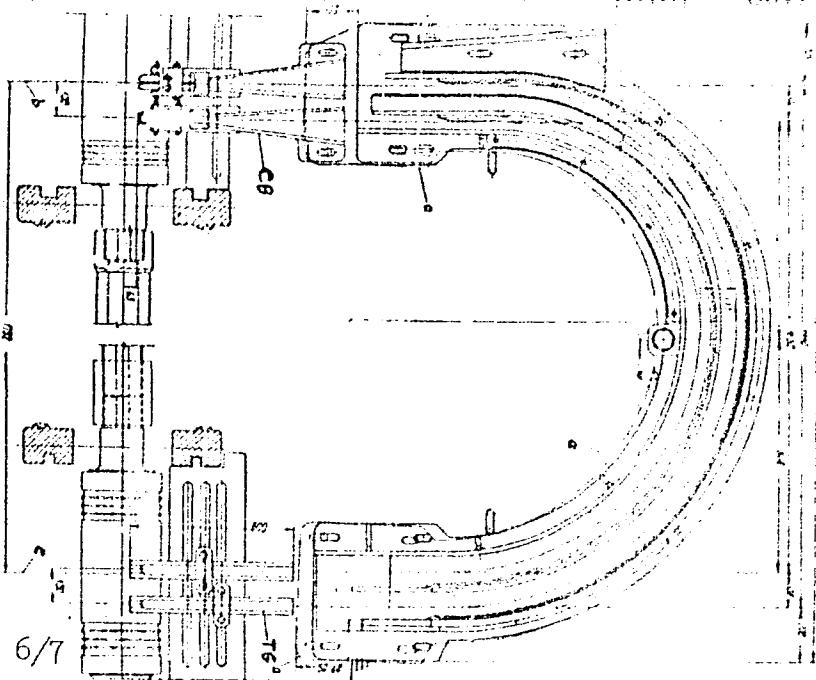


Fig. 7.  
(Caption on  
Card 7/1)

APPROVED FOR RELEASE: 07/16/2001

CIA-RDP86-00513R001755420003-4"

fwd-Bulg. Rolling With Rebar  
Deformed character, 6th and 7th axis

Fig. 7  
Diagram of longitudinal cross-through rebar connection  
6th and 7th axis of finishing line; (CP) - coil of wire  
box with pressure; (T) - forming device; (A) - the  
upper frame; (B) - the lower frame; (C) - improved deep drawing  
coil; (D) - coil of wire; (E) - different axes.

ASSOCIATIONS: Yenakievo Metallurgical Plant, Dneprozerinskiy metallochemical  
Evening Institute, Dneprozerinskiy chemical engineering  
gicheskiy institut)

Card 7/7

MISHCHENKO, N.M., inzh.; BERDICHEVSKIY, Ye.Ye., inzh.; TERMINOSYAN, N.S., inzh.; KURILOV, A.I., inzh.; POLYAKOV, M.M., inzh.; DEMIDOVICH, Ye.A., inzh.; PINDYURIN, N.I., inzh.; Prinimali uchastiye: MALINOVSKIY, V.G.; MOLCHANOV, I.V.; MASHISHINA, M.P.; YEMCHENKO, Ye.K.; CHEREDNICHENKO, A.A.; STEPANOV, V.A.; SKACHKOV, L.N. [deceased]; KOSHMAN, A.I.; SHCHEKLIN, V.V.; CHUBATYUK, Ye.G.; KHITOVA, Ye.Ye.; KOROBOVA, G.Z.; ROTMISTROVSKIY, B.M.; VEYSBEYN, A.D.

Increasing the efficiency of section tandem mills by the use of repeaters. Stal' 23 no.3:236-241 Mr '63. (MIRA 16:5)

1. Yenakiyevskiy metallurgicheskiy zavod.

(Rolling mills--Equipment and supplies)

*TER-MISOK'YAN,*

SOV/122-58-7-30/31

Production Engineering and Technical Session on the Exchange of Experience in the Utilisation of Natural Gas in Industrial Furnaces of Engineering Plants, Khar'kov, (Vest. Mashinostroyeniya, '58, No. 7, pp 86-7 author Z. L. Ginzburg)

with natural gas. The furnace has three burners supplied by one air manifold and one gas manifold which ensure the simultaneous control of all burners. The practical utilisation of gas-fired cast iron melting furnaces has shown that cast iron with a carbon content below 3% can be produced. The high temperatures achieved make it possible to introduce up to 15-20% of steel scrap into the charge and also to accomplish modification of the cast iron. It is stated that cast iron melted with gas has a low sulphur content and is distinguished by higher mechanical properties. Zamalin, P.S., Engineer, of the Khar'kovskiy elektromekhanicheskiy zavod (Khar'kov Electro-mechanical Works) reported on experience with the burning of natural gas in industrial furnaces. Ter-Misok'yan, Engineer, of the Rostsel'mash spoke on the use of gas drying and the conversion of electric furnaces to natural gas.

Card 8/9

SOV/122-58-7-30/31  
Production Engineering and Technical Session on the Exchange of  
Experience in the Utilisation of Natural Gas in Industrial Furnaces  
of Engineering Plants

Levitin, R.B., Engineer, of the Khar'kovskiy zavod  
shveynykh mashin (Khar'kov Sewing Machine Works) reported  
on workshop heating with natural gas using calorifiers.  
There is 1 table.

Card 9/9

112-2-3466D

Translation from: Referativnyy Zhurnal, Elektrotehnika, 1957,  
Nr 2, p. 137 (USSR)

AUTHOR: Ter-Mkhitarov, M.S.

TITLE: Research on the Operation of a Г - Δ system Electric  
Drive Single-Scoop Excavator at Stoppage (Issledovaniye  
raboty elektroprivoda po sisteme Г - Δ (G-D) odnokovshe-  
vogo ekskavatora pri stoporenii)

ABSTRACT: Bibliographic entry on the authors' dissertation for the  
degree of Candidate of Technical Sciences, presented to  
the Moscow Mining Institute (Mosk. gorn. in-t), Moscow,  
1956.

ASSOCIATION: The Moscow Mining Institute (Mosk. gorn. in-t)

Card 1/1

TER-MKHITAROV, M.S., inzh.

Using magnetic amplifiers for direct-current excavator drives.  
Nauch.trudy MG I no.17:235-246 '56. (MIRA 10:11)  
(Excavating machinery--Electric driving)

TER-MEHITAROV, M.S., kand.tekhn.nauk

Effect of parameters of TG-D system excavator drives on the  
transition process quality during blocking. Izv.vys.ucheb.zav.;  
gor.xhur. no.4:98-102 '58. (MIRA 11:11)

1. Permskiy gornyy institut.  
(Excavating machinery--Electric driving)

ORLOV, I.I., inzhener; PERCHIKHIN, K.I., inzhener; TER-MKRTCHAN, G.S., inzhener.

Expedient regulation of peat pump discharge. Torf.prom. 30 no.10:6-9 0 '53.  
(MLRA 6:10)

1. Moskovskiy torfyanyoy institut (for Orlov). 2. Institut metrologii (for  
Perchikhin). 3. TsNIITMASH (for Mkrtchan). (Pumping machinery)

ACCESSION NR: AP4009835

S/0191/64/000/001/0052/0054

AUTHOR: Nikolayev, A. N.; Yartsev, V. G.; Kulikov, N. V.; Vitenberg, R.; Matveyeva, Ye. A.; Ter-Mkrchan, G. S.; Naumova, V. V.

TITLE: Glass plastics for constructional purposes

SOURCE: Plasticheskiye massy\*, no. 1, 1964, 52-54

TOPIC TAGS: plastics, glass plastics, binders, polyester, resin, epoxy resins, styrene, glass lubricants, glass fillers, plastic tubes, hexamethylenediamine, metaphenylene diamine

ABSTRACT: A very simple and effective technological process for the continuous manufacture of shaped products from glass plastics is described. The products obtained on the stretching apparatus are characterized by high strength and can be applied in various industrial fields. The relationship between the hardeners and the processability of resin on the continuous apparatus is investigated for a styrene-epoxide compound at a hardening temperature of 140 C. The properties of the styrene-epoxide compound with different hardeners

Card 1/2

ACCESSION NR: AP4009835

are tabulated. The influence of new lubricants, As-1, AF-1, PVE, PVE-3, on the strength of glass plastic was investigated. The relationship between the strength of glass plastic pipes under axial compression and the glass filler content is established. Suggestions for the best choice of binders, lubricants and fillers are given. Glass plastic rods of small diameter made on the continuous machine have a high breaking strength similar to the strength of steel cables. Orig. art. has: 2 tables.

ASSOCIATION: none

SUBMITTED: 00 DATE ACQ: 10Feb64 ENCL: CO  
SUB CODE: CH, MA NO REF Sov: 000 OTHER: 000

Card 2/2

TER-MKRCHAN, M.G.

Discovering errors in original data of a geopotential field.  
Trudy MMTS no.4s73-30 '64 (MIRA 18s2)

TER-MKRTCHYAN, M.G.

Expected number of justified rejections in the control of data of  
a geopotential field. Meteor. i gidrol. no.10:27-32 0 '64.  
(MIRA 17:10)  
1. Mirovoy meteorologicheskiy tsentr.

SOV/124-59-9-10783

Translation from: Referativnyy zhurnal, Mekhanika, 1959, Nr 9, p 161 (USSR)

AUTHOR: Ter-Mkrtich'yan, A.N.

TITLE: Bend<sup>u</sup> and Torsion of Thin and Thin-Walled Rods<sup>b</sup> Loaded by Longitudinal Forces

PERIODICAL: Tr. Tul'sk. mekhan. in-ta, 1958, Nr 12, pp 209 - 226

ABSTRACT: A system of three linear differential equations with respect to the deflection function in two planes and the torsion angle is obtained for a rectilinear massive elastic rod subjected to bending, torsion, and stretching (or compression). The function of deplanation of the cross sections, which is contained in these equations, was not determined. On the basis of these equations, differential equations are obtained for the equilibrium state of thin-walled rods having an open or closed profile. Terms are contained in the equations, which take into account the action of a torque applied to the ends of the rod.

Card 1/1

V.F. Lukovnikov



TER-MKRTICH'YAN, L.N.

General solution to a problem in the theory of elasticity. Trudy Len.poli-  
tekh.inst. no.4:3-38 '47.  
(MLRA 6:8)  
(Elasticity)

SOV/124-58-11-13320

Translation from: Referativnyy zhurnal, Mekhanika, 1958, Nr 11, p 201 (USSR)

AUTHOR: Ter-Mkrtich'yan, L. N.

TITLE: Determination of the Tensions in a Two-line Catenary Polygon Due to Temperature and Load Changes (Opredeleniye natyazheniy v dvukh"-yarusnom verevochnom mnogougol'nike pri izmenenii temperatury i nagruzki)

PERIODICAL: Tr. Leningr. lesotekhn. akad., 1957, Nr 78, pp 51-55

ABSTRACT: The article relates to the type of two-line catenary polygon encountered in suspension bridges and in the overhead conductor networks of electric railroads. Problems of that type are solved on the premise that the differences in the location of the hanger-attachment points of the catenary messenger branches and the sag of the branches are small in comparison to the lengths of the branches.

P. A. Stepin

Card 1/1

TER-MKRTICH'YAN, L.N.; SMESOVA, L.S., red.

[Theory and design of motor-vehicle frames; study manual] Teoriia i raschet ramy avtomobilia; uchebnoe posobie. Leningrad, Leningr. lesotekhn.akad. im. S.M.Kirova, 1961. 112 p.  
(MIRA 15:7)

(Motor vehicles—Frames) (Beams and girders)

TER-MKRTICH'YAN, L.N.

Axisymmetric problem of the theory of elasticity. Nauch. trudy  
LTA no.96:51-67 '61. (MIRA 17:3)

21347  
S/040/61/025/006/015/021  
D299/D304

11.7313

AUTHOR: Ter-Mkrtich'yan, L.N. (Leningrad)

TITLE: Some problems in the theory of elasticity of nonhomogeneous elastic materials

PERIODICAL: Prikladnaya matematika i mehanika, v. 25, no. 6, 1961, 1120 - 1125

TEXT: Only continuous changes in the elastic properties of nonhomogeneous materials are considered which corresponds to the classical concept of material in ordinary elasticity theory. An axisymmetric problem for nonhomogeneous isotropic materials. The following notations are introduced:  $G^*$  - variable shear modulus,  $E^*$  - variable longitudinal modulus of elasticity,  $\lambda^*$  - variable Lamé lambda,  $\theta$  - volume change,  $\xi$  - radial component of displacement,  $\zeta$  - component in the direction of the axis of symmetry z. From the stress-strain relations one obtains

$$G^* \left( \Delta \xi + \frac{\partial \theta}{\partial r} - \frac{1}{r} \right) + 2 \frac{\partial G^*}{\partial r} \frac{\partial \xi}{\partial r} + \frac{\partial G^*}{\partial z} \left( \frac{\partial \xi}{\partial r} + \frac{\partial \xi}{\partial z} \right) + \frac{\partial}{\partial r} (\lambda^* \theta) = 0 \quad (1.4)$$

Card 1/6

21347  
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V299/D304

Some problems in the theory of ...

$$\cancel{G^*} \left( \Delta \zeta + \frac{\partial \theta}{\partial z} \right) + 2 \frac{\partial G^*}{\partial z} \frac{\partial \zeta}{\partial z} + \frac{\partial \zeta}{\partial r} \left( \frac{\partial \zeta}{\partial r} + \frac{\partial \theta}{\partial z} \right) + \frac{\partial}{\partial z} (\lambda^* \theta) = 0 \quad (1.4)$$

It is assumed that

$$G^* = Ge^{\alpha z}, \quad v^* = \text{const} = v, \quad (1.5)$$

where  $G$  and  $\alpha$  are constants. The function  $\chi$  is introduced by means of an equation whose solution is sought in the form

$$\chi(r, z) = e^{mz} \Phi(r) \quad (1.8)$$

where  $m$  is a complex quantity yet to be determined. By substitution one obtains

$$\frac{d^4 \Phi}{dr^4} + \frac{2}{r} \frac{d^3 \Phi}{dr^3} + \left( k^2 - \frac{1}{r^2} \right) \frac{d^2 \Phi}{dr^2} + \left( \frac{k^2}{r} + \frac{1}{r^3} \right) \frac{d\Phi}{dr} + n^4 \Phi = 0 \quad (1.9)$$

where

$$k^2 = 2m(m+a) - a, \quad n^4 = m^2(m+a)^2 \quad (1.10)$$

Eq. (1.9) can be transformed to

$$\frac{d^2 \Phi_1}{dr^2} + \frac{1}{r} \frac{d\Phi_1}{dr} + q_1^2 \Phi_1 = 0, \quad \frac{d^2 \Phi_2}{dr^2} + \frac{1}{r} \frac{d\Phi_2}{dr} + q_2^2 \Phi_2 = 0 \quad (1.13)$$

Card 2/6

X

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S/040/61/025/006/015/021  
D299/D304

Some problems in the theory of ...

where

$$q_{1,2}^2 = \frac{k^2}{2} \pm \sqrt{\frac{k^4}{4} - n^4}. \quad (1.12)$$

Each of Eq. (1.13) can be reduced to Bessel's equation or to the modified Bessel's equation. Two types of problems are of particular interest: I) a half-space under surface loads, II) a circular cylinder under surface loads. For type I, the solution has to be expressed in terms of Bessel functions of a real argument; this restricts the possible values of  $m$ . Half-space under a circularly-distributed load. The complex exponent  $m = t + is$ . The solution to Eq. (1.13) is expressed by the Bessel and Neumann functions of a real argument, if  $q_1^2$  and  $q_2^2$  are real positive quantities. The expressions for the displacements and stresses are derived; these expressions involve the functions  $F_1$  and  $F_2$  which are determined from the boundary conditions. The boundary conditions (for  $z = 0$ ):

$$\tau_{rz} = 0 \text{ for } 0 < r < \infty, \quad \sigma_z = \begin{cases} -f\gamma(r/R) & \text{for } r \leq R \\ 0 & \text{for } r > R \end{cases} \quad (2.12)$$

Card 3/6

21347  
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D299/D304

Some problems in the theory of ...

are considered;  $R$  is the radius (see Fig.),  $f$  - a parameter expressing the strength of the load,  $\gamma$  - characterizes the load distribution. The components  $\tau$  and  $\sigma$  are expressed by Fourier-Bessel integrals:

$$\tau_{rz} = G e^{xz} \int_0^\infty q J_1(qr) dq \int_0^\infty s \tau(z, s) J_1(qs) ds \quad (2.13)$$

$$\sigma_z = \frac{2G e^{xz}}{1-2\gamma} \int_0^\infty q J_0(qr) dq \int_0^\infty s \sigma(z, s) J_0(qs) ds \quad (2.14)$$

The functions  $\tau(z, s)$  and  $\sigma(z, s)$  are determined from the boundary conditions. Two particular cases are considered: a load evenly distributed over a circle with radius  $R$  (i.e.  $\gamma = 1$ ), and a load evenly distributed over an annular region. Nonhomogeneous cylinder: Both infinite- and bounded cylinders are considered. In the case of an infinite cylinder, the solution is expressed by a Fourier integral, in the second case - by a Fourier series. In order to satisfy the boundary conditions, the exponent  $m$  has to be expressed by

$$m = m_0 + is \quad (3.1)$$

Card 4/6

21347  
S/040/61/025/006/015/021  
D299/D304

Some problems in the theory of ...

where  $m_0$  is a constant and  $s$  - a variable which has the role of a parameter in the subsequent integration or summation; it is also required that  $q_{1,2}^2$  be real; this means that  $q$  is a pure imaginary for any  $s$ , and that the solution to the differential equation will be expressed in terms of cylindrical functions of an imaginary argument. Thus, the general solution for a semi-infinite cylinder is:

$$\underline{x}(r, s) = \exp\left(-\frac{as}{2}\right) \int_0^\infty (J_0(br) [F_1(s) \cos(ss) + F_2(s) \sin(ss)] + K_0(br) [F_3(s) \cos(ss) + F_4(s) \sin(ss)]) ds \quad (3.4)$$

and for a cylinder of length  $l$ :

$$\underline{x}(rs) = \exp\left(-\frac{as}{2}\right) \sum_{k=0}^{\infty} \left\{ J_0(v_k r) \left[ A_k \cos \frac{\pi k}{l} s + B_k \sin \frac{\pi k}{l} s \right] + K_0(v_k r) \left[ C_k \cos \frac{\pi k}{l} s + D_k \sin \frac{\pi k}{l} s \right] \right\} \quad (3.5)$$

Eq. (3.4) and (3.5) yield the stress- and displacement components which can be used for the solution of boundary-value problems.

Card 5/6

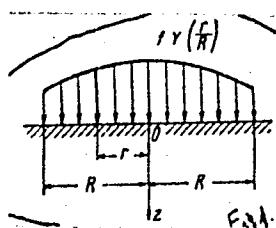
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There is 1 figure.

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Fig. 1



Card 6/6

X

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Investigating the effect of the eccentricity of the application of compressing force on the local stability of a sectional rod. Rasch.-prostr.konstr. no. 7:205-232 '62. (MIRA 15:4)  
(Elastic rods and wires)